

REMARKS

Claim 1 has been replaced by new claim 21 to improve clarity. No new matter is introduced and no modification of the scope of prior claim 1 is intended. Except for correcting dependencies, claims 2-20 remain the same as previously presented.

35 U.S.C. 102(b) rejection

Claim 1 was rejected under 35 U.S.C. 102(b). The Examiner relied upon Matsushita JP7-60185 (hereinafter Matsushita) to support this rejection. As claimed in claim 21, however, the sensor structure of the capacitance detecting proximity sensor houses a first detection electrode and a second detection electrode that are disposed in mutual proximity in a predetermined geometrical relationship as illustrated in Fig. 1. When the detection subject 20 approaches the detection electrodes 11 and 12, the ratio (r_b/r_a) between the distance r_a to the one detection electrode 11 and the distance r_b to the other detection electrode 12 increases. Accordingly, a large difference ($C_a \gg C_b$) arises between the capacitance C_a formed by the one detection electrode 11 and the capacitance C_b formed by the other detection electrode 12 with respect to the detection subject 20. This state appears in the level state (large level) of the difference output V_o . Thus, the proximity of the detection subject 20 can be determined from the level state (large level) of the difference output V_o . See Paragraph 0047. In short, the detection electrodes need to be disposed in mutual proximity in a predetermined geometrical relationship.

On the other hand, as described in Paragraph 0015 of Matsushita, the electrostatic-capacity type taking-a-seat sensor of this differential delayed type forms the reference electrode 3 other than the detection electrode 1, and detects a taking-a-seat condition from the difference of the electrostatic capacity between each electrode 1 and 3 and ground. The detection electrode 1 is formed in the part which Body X approaches, and a reference electrode 3 is formed in the part which Body X does not approach. Thus, as appreciated from the above and clearly illustrated in Fig. 2, the detection electrode and the reference electrode in Matsushita must be separated in distance. Therefore, Applicant believes the present invention as claimed in claim 21 is not described in Matsushita. Claims 2-7, 10-19 and 21 should not be rejected under 35 U.S.C. 102(b).

35 U.S.C. 103(a) rejection

The Examiner rejected claim 8 under 35 U.S.C. 103(a). The Examiner relied upon the combination of Matsushita and Melnick U. S. Patent 3,311,696 (hereinafter

Melnick). Melnick discloses metal foil disposed on an electrode surface. However, as explained in relation to the 102(b) rejection, Matsushita fails to disclose the electrodes disposed in mutual proximity in a predetermined geometrical relationship. Melnick neither discloses nor suggests this feature. Thus, the invention of claim 8 would not have been obvious to an ordinarily skilled artisan from Matsushita in view of Melnick.

The Examiner rejected claims 9 and 20 under 35 U.S.C. 103(a). The Examiner relied upon the combination of Matsushita and Schoefhale et al U. S. Patent 6,215,318 (hereinafter Schoefhale). Schoefhale discloses a sensor having electrode combs, the comb like teeth of which are interleaved. However, again, as explained in relation to the 102(b) rejection, Matsushita fails to disclose the electrodes disposed in mutual proximity in a predetermined geometrical relationship. Schoefhale neither discloses nor suggests this feature. Thus, claims 9 and 20 would not have been obvious to an ordinarily skilled artisan from Matsushita in view of Schoefhale.

Drawings

According to the Examiner's suggestion, Applicant has added the labels "DETECTION SUBJECT" and "PERIPHERAL OBJECT" in the boxes 20 and 21 respectively in Fig. 3B. Marked up and replacement drawings are submitted herewith.

Accordingly, Applicant submits that his claims 2-21, as presented herein, are in condition for further favorable consideration, culminating in allowance. Such action is respectfully requested.

Applicant hereby petitions for a two month extension of the term for response to June 24, 2007. The Commissioner is hereby authorized to charge the fee for this two month extension of time, as well as any additional fees which are required to constitute this a timely response to the January 24, 2007 official action, to Applicant's undersigned counsel's deposit account 10-0435 with reference to file 40433-78389.

Respectfully submitted,



Richard D. Conard
Attorney Reg. No. 27321
Attorney for Applicant